NON-PUBLIC?: N
ACCESSION #: 9212210306
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Fermi 2 PAGE: 1 OF 05

DOCKET NUMBER: 05000341

TITLE: Manual Scram Due to Loss of Feedwater After Heater Fed Pumps Tripped
EVENT DATE: 11/18/92 LER #: 92-012-00 REPORT DATE: 12/18/92

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 98

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Paul Jahn, Compliance Engineer TELEPHONE: (313) 586-1617

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

On November 18, 1992, in accordance with System Operating Procedure 23-103, "Condensate Polishing Demineralizer System", a Nuclear Power Plant Operator (NPPO) backwashed condensate polishing demineralizer "H" and then as directed by procedure flushed the demineralizer influent line. The procedure required that the NPPO open valve N20-F409H, "Demin H Influent Bypass Valve", a one inch valve, instead the NPPO inadvertently opened valve N20-F004H, "Demin H Influent Isolation Valve", a ten inch valve. The Heater Feed Pumps tripped on low suction pressure and subsequently the two Reactor Feed Pumps tripped. The Reactor Pressure Vessel water level decreased on the loss of feedwater. At 2029 hours, the Nuclear Supervising Operator initiated a manual scram by placing the Mode Switch to Shutdown.

The root cause of this event was determined to be personnel error by the NPPO. The NPPO inadvertently opened valve N20-F004H due to inattention

to detail. The NPPO did not use proper Self Checking before opening the valve. An Accountability Meeting was held with the individual involved and plant management. A Human Performance Enhancement System report was completed. This event will be discussed in Operations Requalification training.

END OF ABSTRACT

Initial Plant Conditions:

Operational Condition: 1 Power Operation
Reactor Power: 98 Percent
Reactor Pressure: 1025 psig
Reactor Temperature: 540 degrees Fahrenheit

Description of Event:

On November 18, 1992, in accordance with System Operating Procedure 23-103, "Condensate Polishing Demineralizer System", a Nuclear Power Plant Operator (utility non-licensed)(NPPO)! backwashed condensate polishing demineralizer SF) "H" and then drained the demineralizer. The NPPO then as directed by procedure attempted to flush the demineralizer influent line. The procedure required that the NPPO open valve V! N20-F409H, "Demin H Influent Bypass Valve", instead the NPPO inadvertently opened valve ISV! N20-F004H, "Demin H Influent Isolation Valve". Condensate immediately filled the "H" demin. The condensate header pressure dropped momentarily below the Heater Feed Pump (SK)(HFP)! suction pressure trip setpoint of 50 psig. The three HFPs tripped on low suction pressure. The two Reactor Feed Pumps SJ! then tripped on an interlock trip signal. The Reactor Pressure Vessel RPV! water level decreased on the loss of feedwater.

At 2029 hours, the Nuclear Supervising Operator (utility licensed)(NSO)! in response to the loss of feedwater initiated a manual scram by placing the Mode Switch to Shutdown before the automatic scram level was reached. All control rods fully inserted AA!. Containment isolation valves ISV! group 2 SMV!, Reactor Water Sample Line Valves B31-F019 and B31-F020; group 4 JM!, Residual Heat Removal (BO)(RHR)! Shutdown Cooling Suction Isolation Valves E11-F009 and E11-F008, and RHR Reactor Pressure Vessel Head Spray Isolation Valves E11-F022 and E11-F023; groups 10/11 CE!, Reactor Water Cleanup System Inboard/Outboard Isolation Valves G33-F001 and G33-F004; and group 15 AC!, Traversing In-core Probe Ball Valves C51-F002 A, B, C, D and E, received an isolation signal. The Control Center Heating Ventilation and Air Conditioning VI!, Reactor Building

Heating Ventilation and Air Conditioning VA! systems isolated. The Standby Gas Treatment BH! system actuated. The Low Pressure Coolant Injection (BO)(LPCI)! loop select logic permissive was enabled when Reactor Pressure Vessel RPV! level 2 was reached. At RPV level 2,

High Pressure Coolant Injection (BJ)(HPCI)! and Reactor Core Isolation Cooling (BN)(RCIC)! automatically started and restored RPV level. The Nuclear Shift Supervisor (utility licensed)(NSS)! declared an unusual event due to the HPCI injection.

At 2030 hours, RPV level 2 was restored. At 2032 hours, RPV level 3 was restored. The unusual event was terminated at 2100 hours. However, the Emergency Notification System phone call required by 10CFR50.72(a)(1)(i) was made at 2215 hours which was 46 minutes late.

Plant personnel reviewed the isolation/actuations that occurred and determined that the systems had functioned properly. However, the outboard valve ISV! G11-F019, "Drywell Equipment Drain Sump Pump Discharge Valve" showed dual indication. In accordance with the Technical Specification Action Statement the inboard valve G11-F018 ISV! was closed and de-energized following the scram. Later valve G11-F019 was verified closed locally.

Cause of Event:

The root cause of this event was determined to be personnel error by the NPPO. The NPPO inadvertently opened valve N20-F004H, the "H" demineralizer influent isolation valve, rather than valve N20-F409H, the influent bypass valve due to inattention to detail. The NPPO did not use proper Self Checking before opening the valve. This caused a pressure transient in the condensate/feedwater system that resulted in a loss of feedwater with attendant loss of RPV level and required a manual scram.

The Emergency Notification System (ENS) phone call was made to the NRC operations center at 2215 hours. The ENS notification was 46 minutes late. This was due to personnel error on the part of the NSS and NSO who failed to communicate to each other the status of NRC notifications. The emergency response person responding to the unusual event, discovered the error when he could not find the "Event Notification Work Sheet". Subsequently, the ENS notification was made at 2215 hours.

Analysis of Event:

The condensate polishing demineralizer System had been in normal operation prior to the event. The system has eight parallel filter/demineralizers A through H. The water was discharged into a common outlet header and directed to the suction of the HFPS. The HFPs boosted the feedwater system pressure and maintained the RFP suction pressure. Therefore, the two RFPs tripped automatically when the three HFPs tripped. The NSO and his supervisors in the Control Room have been trained on the loss of feedwater event and took the appropriate action when feedwater was lost.

The NSO manually scrammed the reactor by placing the Mode Switch in Shutdown. The reactor was scrammed before the level 3 automatic scram setpoint was reached. The HPCI system and the RCIC automatically started and restored RPV level as designed when the level 2 setpoint was reached. The Engineered Safety Feature JE! systems functioned as designed following the initiation of the reactor scram. Control Room personnel monitored the ESF systems to assure that the intended actuations and isolations were in accordance with the plant design.

The minimum RPV level reached was 77 inches. Engineering reviewed this transient and determined that the level response was consistent with the General Electric, "Power Uprate Analysis".

Corrective Actions:

An Accountability Meeting was held with plant management and personnel involved. The cause of the event and Corrective Actions were discussed. A Human Performance Enhancement System report was completed.

Operations Requalification training will discuss this event, its causes and how self-checking could have prevented the event. This training will begin the first cycle of 1993.

The indication for outboard valve G11-F019, "Drywell Equipment Drain Sump Pump Discharge Valve" was repaired.

Night Orders were issued to notify operations personnel of the late ENS notification. Lessons Learned from the late ENS notification will be discussed in licensed operator requalification training the first

cycle of 1993. As an enhancement, Emergency Procedures 102, "Unusual Event", 103, "Alert", 104, "Site Area Emergency", and 105, "General Emergency" will be revised by January 31, 1993, to place additional

emphasis on ENS notifications.

Previous Similar Events:

None.

ATTACHMENT 1 TO 9212210306 PAGE 1 OF 1

William S. Orser
Senior Vice President

Detroit Fermi 2
Edison 6400 North Dixie Highway

Newport, Michigan 48166
(313) 586-5201 10CFR50.73

December 18, 1992
NRC-92-0136

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Reference: Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

Subject: Licensee Event Report (LER) No. 92-012

Please find enclosed LER No. 92-012, dated December 18, 1992, for a reportable event that occurred on November 18, 1992. A copy of this LER is also being sent to the Regional Administrator, USNRC Region III.

If you have any questions, please contact Paul Jahn, Compliance Engineer, at (313) 586-1617.

Sincerely,

Enclosure: NRC Forms 366, 366A

cc: T. G. Colburn
A. B. Davis
W. J. Kropp
M. P. Phillips

P. L. Torpey

Wayne County Emergency
Management Division

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